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THE NORTHERN VARIETY OF *ASPERELLA* *HYSTRIX*.

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THE unique Bottle-brush Grass, *Asperella Hystrix* (L.) Humb. (*Hystrix patula* Moench)¹ has two pronounced variations which were detected by that prince of early New England systematists, Jacob Bigelow, but which apparently have not been differentiated by others during the succeeding century. In 1824 Bigelow, after describing *Elymus Hystrix* L., said:

“We have two varieties.

Three or four feet high, sheaths smooth, spikelets about twenty, pubescent.

One or two feet high, sheaths rough, spikelets about ten, glabrous.”²

Examination of all available material shows that while the stature, degree of pubescence of the sheaths and number of the spikelets are inconstant, the plant with pubescent spikelets is a well defined northern variety which should be set off from the typical southern plant with glabrous spikelets. All material in the Gray Herbarium from the southern half of the range of the species—Oklahoma, Missouri, Illinois, Indiana, Kentucky, North Carolina, West Virginia, District of Columbia, Maryland, Delaware and Pennsylvania—has strictly glabrous lemmas; much material from the northern half of the range—Nova Scotia, Quebec, Ontario, New England, New York, northern Ohio, Michigan and Wisconsin—has densely pilose lemmas. In New

¹ For discussion of the nomenclature of this plant see Hubbard, RHODORA, xiv. 187 (1912).

² Bigel. Fl. Bost. ed. 2, 47 (1824).

England and New York the typical plant with glabrous spikelets also occurs but it is noteworthy that, as shown by the very detailed representation in the herbarium of the New England Botanical Club, they are not often found together; the plant with glabrous spikelets occurring in the southern counties or in areas well known for their southern floras—for instance, the alluvial terraces of the Kennebec in Maine or Oak Island in eastern Massachusetts; the plant with pilose spikelets selecting the cooler stations: rocky talus of mountains and hills such as Day Mountain in Franklin County, Maine, Devil's Slide, Stark, New Hampshire, Willoughby Notch and Williamstown Gulf, Vermont, and Horn Pond Hill and Lee's Cliff in eastern Massachusetts.

Although Linnaeus did not indicate whether or not his *Elymus Hystrix* has glabrous or pubescent spikelets, the fact that it came from Virginia (*Clayton*) is reasonable evidence that its spikelets were glabrous and from the contrast of range and habitat above indicated it is clear that the northern variety with pilose spikelets should be separated as

ASPERELLA HYSTRIX (L.) Humb., var. **Bigeloviana**, n. var., spiculis pilosis.—Nova Scotia and Quebec to Wisconsin. The following are characteristic specimens. NOVA SCOTIA: alluvial woods along Five-mile River, Hants Co., July 19, 1920, *Pease & Long*, no. 20,116. QUEBEC: woods, near Cookshire, August 4, 1914, *T. W. Edmondson*, no. 5326. MAINE: rocky woods, Day Mt., Franklin Co., August 1, 1903, *Knowlton*; Hanover, July, 1888, *Parlin*. NEW HAMPSHIRE: alluvial woods by Mohawk River, Colebrook, September 5, 1917, *Fernald & Pease*, no. 17,454; moist woods by Israel River, Lancaster, August 1, 1910, *Pease*, no. 12,785; thin woods by the Connecticut River, Hanover, July 13, 1910, *Williams* (TYPE in Gray Herb.); Walpole, July 16, 1903, *Blanchard*, no. 51. VERMONT: Willoughby Notch, July 23, 1894, *Williams*, July 31, 1894, *Kennedy*; river thicket, Montpelier, August 18, 1915, *Knowlton*; rocky woods, Williamstown, July 15, 1918, *Knowlton*. MASSACHUSETTS: Malden Waterfall, July 15, 1866, *Wm. Boott*; hill near Spot Pond, Middlesex Co., July 11, 1853, *Boott*; rocky woods at the cascade, Melrose, July 29, 1888, *Rich*; rocky woods, Horn Pond Mountain, Woburn, July 8, 1908, *Pease*, no. 11, 356; Lee's Cliff, Concord, July 6, 1859, *H. D. Thoreau*; Muddy Pond Woods, Boston, July 24, 1874, *Faxon*; border of Purgatory, Sherborn, August 15, 1911, *M. L. Loomis*, no. 529; alluvial woods, Greenfield, July 22, 1913, *Murdoch*, no. 5211; rocky banks of Westfield River, West Chesterfield, August 22, 1912, *Robinson*, no. 732. RHODE ISLAND: station not stated, *Thurber*. CONNECTICUT: New Haven, July 12, 1879, *J. A. Allen*. NEW YORK: open alluvial and marshy

flats south of Fall Creek, Ithaca, July 9, 1913, *Palmer*, no. 173; Taughannock Ravine, Ulysses, June 27, 1916, *Metcalf*, no. 5878. ONTARIO: St. Thomas, July 3, 1898, *G. L. Fisher*. OHIO: Rocky River, July 13, 1896, *Greenman*, no. 3200. MICHIGAN: border of Burt Lake, Cheboygan Co., July 28, 1917, *Ehlers*, no. 557; damp low woods, Ann Arbor, June 29, 1838, *Houghton*. WISCONSIN: River Falls, August, 1903, *Powell*.

As stated, all the material examined from south of the above area is typical *A. Hystrix* with glabrous spikelets. It may be of service to others to have a record of the more northern stations for the plant with glabrous spikelets, as follows; and it will be noted that in every case these stations are different from those of var. *Bigeloviana* and decidedly more numerous in southern New England.

MAINE: wooded brooksides and gulleys in clay terraces of the Kennebec, Sidney, *Fernald & Long*, no. 12,749; Pittston, *Reynolds*. NEW HAMPSHIRE: sandy river-terraces of the Pemigewasset, Plymouth, *Fernald*, no. 11,569. VERMONT: dry woods, Shoreham, *Cushman*, no. 6269; ledgy woods, East Jamaica, *Wheeler*; Brattleboro, *Churchill*; Manchester, *Day*, no. 273. MASSACHUSETTS: Essex, *Eaton*; moist woods, West Boxford, *Horner*; Georgetown, *Horner*; rocky woods, Waltham, *Pease*, no. 11,388; rich woods, Oak Island, *Young et al.*; rocky woods, Brookline, *Forbes*; rock, Wellesley, *Wiegand*; Needham, *Fuller*; Dover, *Fuller*; woods near the Mountain House, Mt. Wachusett, *Collins*; rocky wooded hillside, Middlefield, *Fernald & Long*, no. 8825; Stockbridge, *Hoffmann*; wet woods, Sheffield, *Churchill*. CONNECTICUT: West Hartford, *Driggs*; not rare in shade, Southington, *Andrews*; Roaring Brook, *Eaton*; Norwich, *Rogers*; rocky woods, Danbury, *Harger*. NEW YORK: Canton, *Phelps*; western N. Y., *Gray*, N. A. Gram. Cyp., no. 130; dry woods, Ithaca, *Metcalf*, no. 5876. ONTARIO: Battersea, *Fowler*.

GRAY HERBARIUM.

REPORTS ON THE FLORA OF THE BOSTON DISTRICT,—XXXVII.

DIAPENSIACEAE.

GALAX.

G. APHYLLA L. Two clumps in oak woods, Swampscott (*Miss M. E. Ward*, Dec. 5, 1918. See RHODORA xxi. 24, 1919). Specimen in herb. N. E. Botanical Club.